## **Use Pointers**

```
int main()
{
   int n[ 10 ];

   for( int i = 0; i < 10; i++ )
      n[ i ] = 0;

   cout << "Element" << setw( 13 ) << "Value" << endl;
   for( int j = 0; j < 10; j++ )
      cout << setw( 7 ) << j << setw( 13 ) << n[ j ] << endl;
}</pre>
```

```
int main()
{
   int n[ 10 ];
   int *p = &n[ 0 ];

   for( int i = 0; i < 10; i++ )
      p[ i ] = 0;

   cout << "Element" << setw( 13 ) << "Value" << endl;
   for( int j = 0; j < 10; j++ )
      cout << setw( 7 ) << j << setw( 13 ) << p[ j ] << endl;
}</pre>
```

```
int main()
{
   int n[ 10 ];
   int *p = &n[ 0 ];

   for( int i = 0; i < 10; i++ )
      p[ i ] = 0;

   cout << "Element" << setw( 13 ) << "Value" << endl;
   for( int j = 0; j < 10; j++ )
      cout << setw( 7 ) << j << setw( 13 ) << p[ j ] << endl;
}</pre>
```

```
int main()
{
   int n[ 10 ];
   int *p = &n[ 0 ];

   for( int i = 0; i < 10; i++ )
      p[ i ] = 0;

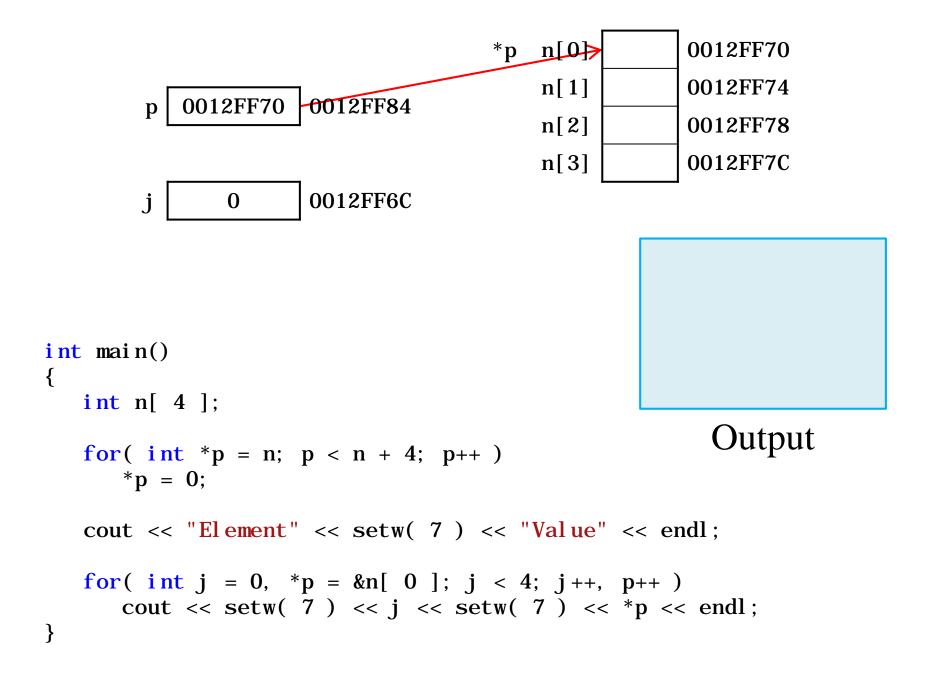
   cout << "Element" << setw( 13 ) << "Value" << endl;
   for( int j = 0; j < 10; j++ )
      cout << setw( 7 ) << j << setw( 13 ) << p[ j ] << endl;
}</pre>
```

```
int main()
{
  int n[ 10 ];

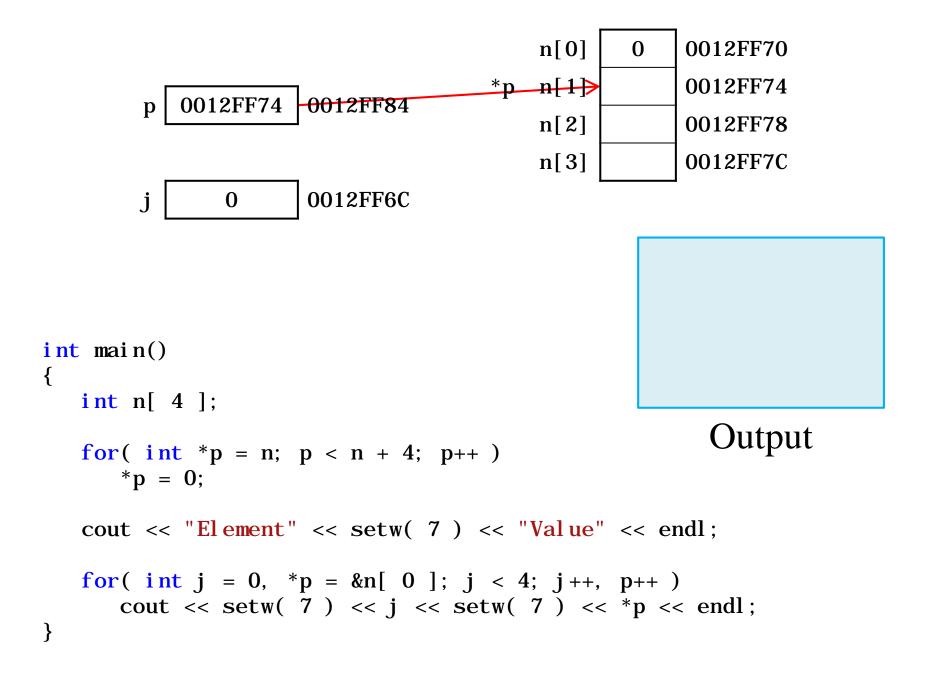
for( int *p = n; p < n + 10; p++ )
    *p = 0;

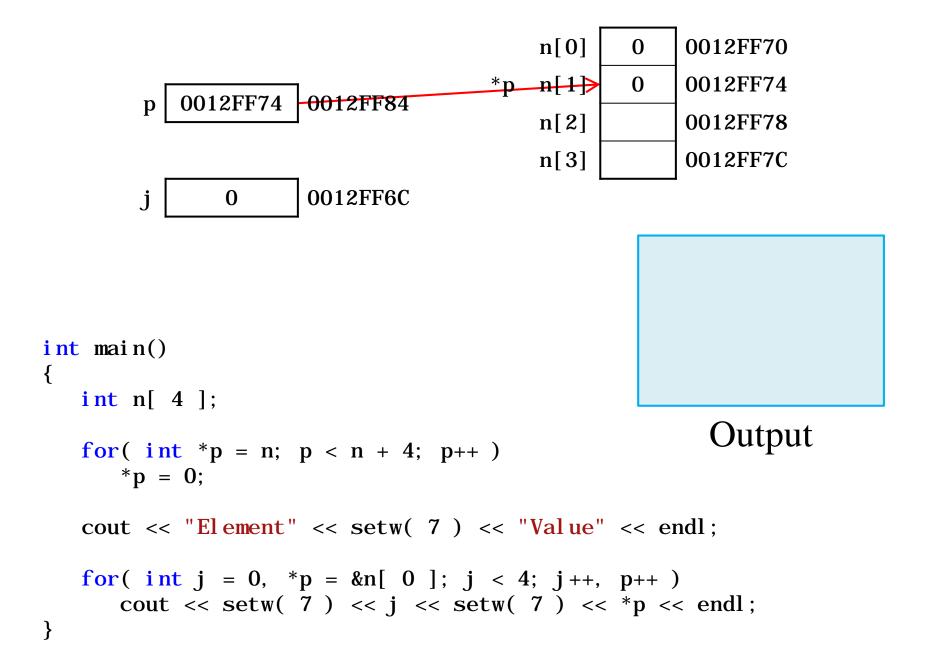
cout << "Element" << setw( 13 ) << "Value" << endl;
for( int j = 0, *p = &n[ 0 ]; j < 10; j++, p++ )
    cout << setw( 7 ) << j << setw( 13 ) << *p << endl;
}</pre>
```

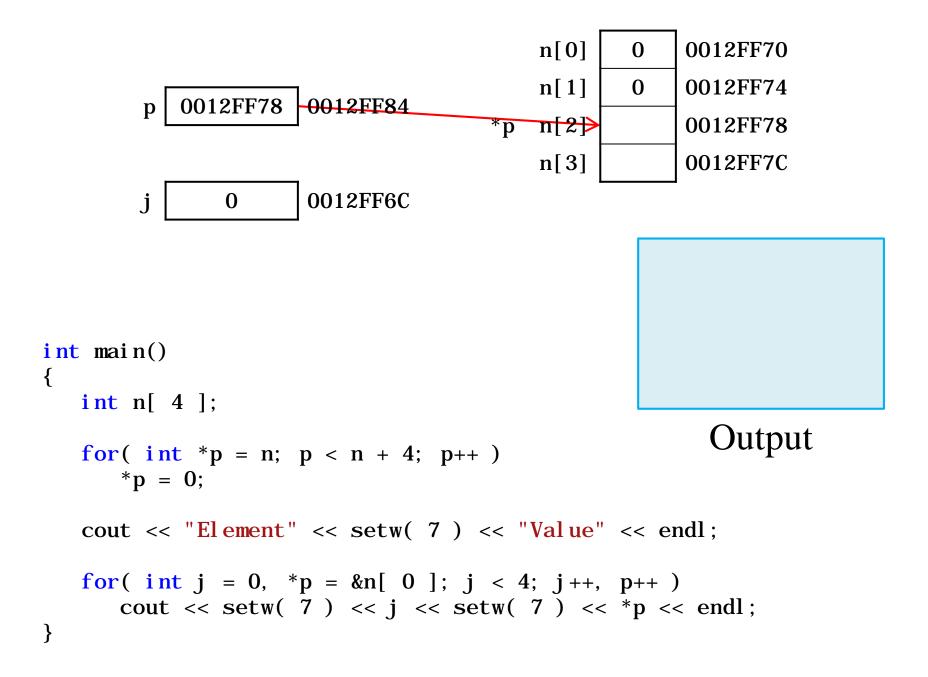
```
n[0]
                                                     0012FF70
                                                      0012FF74
                                         n[1]
                      0012FF84
        p
                                         n[2]
                                                      0012FF78
                                         n[3]
                                                      0012FF7C
               0
                      0012FF6C
int main()
{
   int n[ 4 ];
                                                        Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for (int j = 0, *p = &n[0]; j < 4; j++, p++)
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;</pre>
}
```

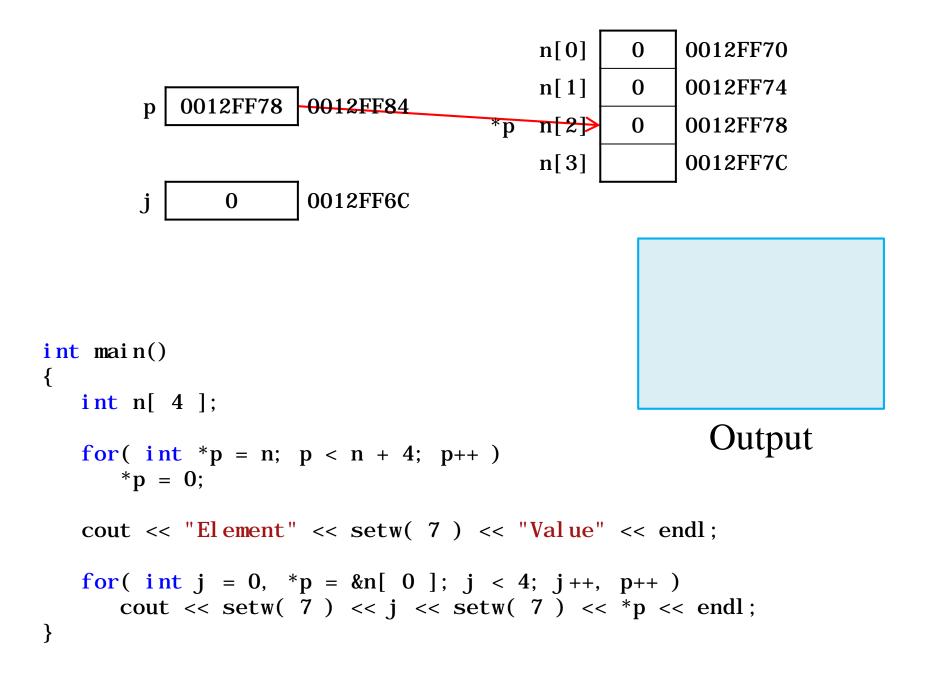


```
*p n[0]
                                                    0012FF70
                                               0
                                        n[1]
                                                    0012FF74
           0012FF70 | 0012FF84
                                        n[2]
                                                    0012FF78
                                        n[3]
                                                    0012FF7C
              0
                     0012FF6C
int main()
{
   int n[ 4 ];
                                                      Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for (int j = 0, *p = &n[0]; j < 4; j++, p++)
      cout << setw(7) << j << setw(7) << *p << endl;
}
```









```
n[0]
                                                    0012FF70
                                               0
                                                    0012FF74
                                        n[1]
                                               0
           0012FF7C | 0012FF84
                                        n[2]
                                                    0012FF78
                                               0
                                        n[3]
                                                    0012FF7C
                                    *p
              0
                     0012FF6C
int main()
{
   int n[ 4 ];
                                                      Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for (int j = 0, *p = &n[0]; j < 4; j++, p++)
      cout << setw(7) << j << setw(7) << *p << endl;
}
```

```
n[0]
                                                    0012FF70
                                                0
                                                    0012FF74
                                        n[1]
                                                0
           0012FF7C | 0012FF84
                                        n[2]
                                                    0012FF78
                                                0
                                        n[3]
                                                    0012FF7C
                                    *p
                                                0
              0
                     0012FF6C
int main()
{
   int n[ 4 ];
                                                      Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for (int j = 0, *p = &n[0]; j < 4; j++, p++)
      cout << setw(7) << j << setw(7) << *p << endl;
}
```

```
n[0]
                                                      0012FF70
                                                 0
                                                      0012FF74
                                         n[1]
                                                 0
           0012FF80 | 0012FF84
        p
                                         n[2]
                                                      0012FF78
                                                 0
                                         n[3]
                                                      0012FF7C
                                                 0
               0
                      0012FF6C
int main()
{
   int n[ 4 ];
                                                        Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for (int j = 0, *p = &n[0]; j < 4; j++, p++)
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;</pre>
}
```

```
n[0]
                                                      0012FF70
                                                 0
                                                      0012FF74
                                          n[1]
                                                 0
           0012FF80 | 0012FF84
                                          n[2]
                                                      0012FF78
                                                 0
                                          n[3]
                                                      0012FF7C
                                                 0
                      0012FF6C
                                                   El ement
                                                            Val ue
int main()
{
   int n[ 4 ];
                                                        Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for (int j = 0, *p = &n[0]; j < 4; j++, p++)
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;</pre>
}
```

```
*p n[0]
                                                     0012FF70
                                                 0
                                         n[1]
                                                      0012FF74
                                                 0
           0012FF70
                    0012FF84
        p
                                         n[2]
                                                      0012FF78
                                                 0
                                         n[3]
                                                      0012FF7C
                                                 0
               0
                      0012FF6C
                                                   El ement
                                                            Val ue
int main()
   int n[ 4 ];
                                                        Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
```

for ( int j = 0, \*p = &n[ 0 ]; j < 4; j++, p++ )

cout << setw(7) << j << setw(7) << \*p << endl;

{

}

```
*p n[0]
                                                     0012FF70
                                                0
                                         n[1]
                                                     0012FF74
                                                0
           0012FF70 | 0012FF84
        p
                                         n[2]
                                                     0012FF78
                                                0
                                         n[3]
                                                     0012FF7C
                                                0
              0
                     0012FF6C
                                                  El ement
                                                          Val ue
int main()
{
   int n[ 4 ];
                                                       Output
   for (int *p = n; p < n + 4; p++)
      *p = 0;
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for ( int j = 0, *p = &n[ 0 ]; j < 4; j++, p++ )
      cout << setw(7) << j << setw(7) << *p << endl;
}
```

```
n[0]
                                             0012FF70
                                         0
                                             0012FF74
                             *p_n[1]
                                         0
   0012FF74
            0012FF84
p
                                 n[2]
                                             0012FF78
                                         0
                                             0012FF7C
                                 n[3]
                                         0
             0012FF6C
      1
                                          El ement
                                                   Val ue
```

```
int main()
{
  int n[ 4 ];
  for( int *p = n; p < n + 4; p++ )
      *p = 0;

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int j = 0, *p = &n[ 0 ]; j < 4; j++, p++ )
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                             0012FF70
                                        0
                                             0012FF74
                             *p_n[1]
                                        0
   0012FF74
            0012FF84
p
                                 n[2]
                                             0012FF78
                                        0
                                             0012FF7C
                                 n[3]
                                        0
             0012FF6C
      1
```

```
int main()
{
  int n[ 4 ];
  for( int *p = n; p < n + 4; p++ )
      *p = 0;

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int j = 0, *p = &n[ 0 ]; j < 4; j++, p++ )
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                              0012FF70
                                         0
                                              0012FF74
                                 n[1]
                                         0
   0012FF78 | 0012FF84
p
                                 n[2]
                                              0012FF78
                                         0
                                 n[3]
                                              0012FF7C
                                         0
       2
              0012FF6C
```

```
int main()
{
  int n[ 4 ];
  for( int *p = n; p < n + 4; p++ )
      *p = 0;

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int j = 0, *p = &n[ 0 ]; j < 4; j++, p++ )
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                              0012FF70
                                         0
                                              0012FF74
                                 n[1]
                                         0
   0012FF78 | 0012FF84
p
                                 n[2]
                                              0012FF78
                                         0
                                 n[3]
                                              0012FF7C
                                         0
       2
              0012FF6C
```

```
int main()
{
  int n[ 4 ];

  for( int *p = n; p < n + 4; p++ )
      *p = 0;

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int j = 0, *p = &n[ 0 ]; j < 4; j++, p++ )
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                           0012FF70
                                      0
                                           0012FF74
                              n[1]
                                      0
0012FF7C | 0012FF84
                              n[2]
                                           0012FF78
                                      0
                                           0012FF7C
                          *p
                              n[3]
                                      0
   3
          0012FF6C
```

```
int main()
{
  int n[ 4 ];
  for( int *p = n; p < n + 4; p++ )
    *p = 0;

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int j = 0, *p = &n[ 0 ]; j < 4; j++, p++ )
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                           0012FF70
                                      0
                                           0012FF74
                              n[1]
                                      0
0012FF7C | 0012FF84
                              n[2]
                                           0012FF78
                                      0
                                           0012FF7C
                          *p
                              n[3]
                                      0
   3
          0012FF6C
```

```
n[0] 0 0012FF70
n[1] 0 0012FF74
n[2] 0 0012FF78
n[3] 0 0012FF78
j 4 0012FF6C
```

```
int main()
{
  int n[ 4 ];

  for( int *p = n; p < n + 4; p++ )
      *p = 0;

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int j = 0, *p = &n[ 0 ]; j < 4; j++, p++ )
      cout << setw( 7 ) << j << setw( 7 ) << *p << endl;
}</pre>
```

```
int main()
{
   int n[10] = \{ 32, 27, 64, 18, 95, 14, 90, 70, 60, 37 \};
   cout << "El ement" << setw( 13 ) << "Value" << endl;</pre>
   for (int i = 0; i < 10; i++)
      cout << setw( 7 ) << i << setw( 13 ) << n[ i ] << endl;
}
int main()
{
   int n[10] = \{ 32, 27, 64, 18, 95, 14, 90, 70, 60, 37 \};
   int *p = n;
   cout << "El ement" << setw( 13 ) << "Value" << endl;
   for (int i = 0; i < 10; i++)
      cout << setw(7) << i << setw(13) << *(p + i) << endl;
}
```

```
int main()
{
   int n[10] = \{ 32, 27, 64, 18, 95, 14, 90, 70, 60, 37 \};
   int *p = n;
   cout << "El ement" << setw( 13 ) << "Value" << endl;
   for (int i = 0; i < 10; i++)
      cout << setw(7) << i << setw(13) << *(p + i) << endl;
}
int main()
{
   int n[10] = \{ 32, 27, 64, 18, 95, 14, 90, 70, 60, 37 \};
   cout << "El ement" << setw( 13 ) << "Value" << endl;</pre>
   for (int i = 0, *p = n; p < n + 10; i++, p++)
      cout << setw( 7 ) << i << setw( 13 ) << *p << endl;
}
```

```
0012FF70
                                        n[0]
                                               32
                                                    0012FF74
                                        n[1]
                                               27
                     0012FF84
        p
                                        n[2]
                                               64
                                                    0012FF78
                                        n[3]
                                                    0012FF7C
                                               18
        i
                     0012FF6C
int main()
                                                      Output
   int n[4] = \{32, 27, 64, 18\};
   cout << "El ement" << setw( 7 ) << "Value" << endl;</pre>
   for (int i = 0, *p = n; p < n + 4; i++, p++)
      cout << setw(7) << i << setw(7) << *p << endl;
}
```

```
n[0]
                                         32
                                              0012FF70
                                              0012FF74
                                  n[1]
                                         27
              0012FF84
p
                                  n[2]
                                         64
                                              0012FF78
                                  n[3]
                                              0012FF7C
                                         18
i
              0012FF6C
```

El ement Val ue

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };
  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
     cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
*p n[0]
                                         32
                                              0012FF70
                                              0012FF74
                                 n[1]
                                         27
   0012FF70 | 0012FF84
p
                                 n[2]
                                         64
                                              0012FF78
                                 n[3]
                                              0012FF7C
                                         18
i
      0
             0012FF6C
```

El ement Val ue

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
      cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
*p n[0]
                                         32
                                              0012FF70
                                 n[1]
                                         27
                                              0012FF74
   0012FF70 | 0012FF84
p
                                 n[2]
                                         64
                                              0012FF78
                                 n[3]
                                              0012FF7C
                                         18
i
      0
             0012FF6C
```

Element Value 0 32

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
      cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                        32
                                             0012FF70
                                        27
                                             0012FF74
                             *p_n[1]
   0012FF74
            0012FF84
p
                                 n[2]
                                        64
                                             0012FF78
                                             0012FF7C
                                 n[3]
                                        18
i
      1
             0012FF6C
```

Element Value 0 32

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
     cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                        32
                                             0012FF70
                                        27
                                             0012FF74
                             *p_n[1]
   0012FF74
            0012FF84
p
                                 n[2]
                                        64
                                             0012FF78
                                             0012FF7C
                                 n[3]
                                        18
i
      1
             0012FF6C
```

Element Value 0 32 1 27

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
      cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                         32
                                              0012FF70
                                              0012FF74
                                  n[1]
                                         27
   0012FF78 | 0012FF84
p
                                  n[2]
                                         64
                                              0012FF78
                                  n[3]
                                              0012FF7C
                                         18
i
       2
              0012FF6C
```

Element Value 0 32 1 27

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };

  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
      cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                         32
                                              0012FF70
                                              0012FF74
                                  n[1]
                                         27
   0012FF78 | 0012FF84
p
                                  n[2]
                                         64
                                              0012FF78
                                  n[3]
                                              0012FF7C
                                         18
i
       2
              0012FF6C
```

```
Element Value
0 32
1 27
2 64
```

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };
  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
     cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                         32
                                              0012FF70
                                              0012FF74
                                  n[1]
                                         27
   0012FF7C | 0012FF84
p
                                  n[2]
                                         64
                                              0012FF78
                                 n[3]
                                              0012FF7C
                             *p
                                         18
              0012FF6C
i
       3
```

```
Element Value
0 32
1 27
2 64
```

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };
  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
     cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                         32
                                              0012FF70
                                              0012FF74
                                  n[1]
                                         27
   0012FF7C | 0012FF84
p
                                  n[2]
                                         64
                                              0012FF78
                                 n[3]
                                              0012FF7C
                             *p
                                         18
              0012FF6C
i
       3
```

```
Element Value
0 32
1 27
2 64
3 18
```

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };
  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
     cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```

```
n[0]
                                         32
                                               0012FF70
                                               0012FF74
                                  n[1]
                                         27
   0012FF80 | 0012FF84
p
                                  n[2]
                                         64
                                               0012FF78
                                  n[3]
                                               0012FF7C
                                         18
i
       4
              0012FF6C
```

```
El ement Val ue
0 32
1 27
2 64
3 18
```

```
int main()
{
  int n[ 4 ] = { 32, 27, 64, 18 };
  cout << "Element" << setw( 7 ) << "Value" << endl;

  for( int i = 0, *p = n; p < n + 4; i++, p++ )
     cout << setw( 7 ) << i << setw( 7 ) << *p << endl;
}</pre>
```